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U. S. DEPARTMENT OF AGRICULTURE

COTTON INSECT CONDITIONS FOR WEEK ENDING JULY 26, 1947
(Ninth Cotton Insect Survey Report for 1947)

Weather conditions generally were favorable for weevil development, but hot, dry weather was sufficient in many areas to aid in the control of the boll weevil. The weevil situation remains critical in 7 of the 9 leading cotton-growing states. In many areas the weevils are now so abundant that unless the cotton is dusted with insecticides, there is danger that they may cause greater reduction in yield in some states than in any recent year. Much of the cotton should be dusted now to protect the bolls that have been set. Late dusting gives greater returns per application than early applications of insecticides. Many thousands of bales of cotton can still be saved by making 2 to 4 applications of insecticides during August, or until the bolls are safe from weevil attack. Growers who do not protect the bolls may experience very serious weevil losses.

Cotton leafworms were found in Refugio County on July 22. This is the third county in Texas from which the cotton leafworm has been reported this season. It was found in Calhoun and Nueces Counties during June.

INSECTICIDES

E. W. Dunnam, Entomologist, Delta Branch Experiment Station, Stoneville, Mississippi, reported on July 16: "Insecticide dealers...tell us there will be acute shortages of insecticides if there is not some help from the weather. We are told that arsenicals will be shorter than once thought, because supplies of arsenic coming from abroad have been reduced to practically nothing. This situation has caused dealers and farmers to turn their attention to other possible poisons for use against cotton insects." He reports that, in addition to regular calcium arsenate, other new insecticides are being sold.

F. F. Bondy and C. F. Rainwater, Entomologists, Pee Dee Experiment Station, Florence, South Carolina, reported July 26: "The supply of insecticides now appears adequate for the State, though in some sections it became adequate too late. Farmers in South Carolina are accustomed to applying poison early and practically none of them believe in dusting after weevil migration begins."

E. A. Davis, County Agent, Courtland, Southampton County, Virginia, reported a shortage of calcium arsenate for boll weevil poisoning.

W. B. Rogers of this bureau reported July 23 that considerable dusting is in progress in the Pecos Valley of New Mexico and the supply of insecticides on hand is running short.

W. A. Ruffin, Extension Entomologist, wrote on July 21: "At the present time we are unable to purchase, in any quantity, calcium arsenate or other materials for the control of cotton insects. Distributors tell me that a few cars of calcium arsenate will be available from the first of August to the 15th. It is my opinion that more farmers in Alabama have done a good job of weevil control up to the present than ever before. However, in my opinion, a lot of cotton

will be lost due to punctured bolls during August, because we do not have any material with which to control the boll weevil for the balance of the season." (It is understood that since this was reported some shipments of insecticides have been sent to this area.)

Excerpts from the Weekly Cotton Weather Bulletin, issued by the Weather Bureau of the Department of Commerce at New Orleans, Louisiana, on July 22, 1947:

TEXAS: Cotton made very good progress, although the crop was showing signs of deterioration in drier areas; harvest under way in Coastal Bend, early fields blooming in high and low Rolling Plains.

OKLAHOMA: Cotton late, condition fair, progress fairly good although lack of soil moisture caused some wilting, weather favorable for checking weevils, dusting continues.

ARKANSAS: Cotton progress good, fruiting heavily, weather favorable for checking weevils.

LOUISIANA: Cotton condition and progress good, blooming and fruiting normal, weather favorable for checking weevils.

MISSISSIPPI: Cotton condition and progress good, except southeast where drought unrelieved, crops still late; blooming and fruiting generally, weather moderately favorable for weevil activity north and central with infestation extensive and damaging.

ALABAMA: Most cotton fields good and being laid by south.

GEORGIA: Weather conditions moderately favorable to favorable for weevil activity.

SOUTH CAROLINA: Cotton progress, condition good, weather favorable for weevil activity, infestation heavy most sections; squaring beginning north, most sections report crop growth satisfactory.

NORTH CAROLINA: Sunshine inadequate, rainfall adequate; cotton good with weather moderately favorable for weevil activity.

ARIZONA: Cotton making good growth under warm, dry weather; control measures accelerated account insect infestation.

CALIFORNIA: Cotton developing well with yield estimated to last year; cultivation, irrigation, dusting continue; recent warmer weather beneficial.

MISSOURI: Lack of rain being felt some locations south half of State; cotton growing good, some blooming.

NEW MEXICO: Cultivation row crops active with good advance most sections, cotton ready to bloom.

BOLL WEEVIL

VIRGINIA: J. O. Rowell, Extension Entomologist, Blacksburg, examined 1 cotton field in Surry County and 2 fields in Isle of Wight County, on July 23, without finding any boll weevils, but in 5 fields in Southampton County the average infestation was 10% punctured squares. One field had 22% punctured squares.

W. Don Fronk, Assistant Entomologist, Agricultural Experiment Station, found 9% of the squares punctured in a field he examined in Nansemond County on July 25.

NORTH CAROLINA: James T. Conner, Jr., Extension Entomologist, reported on July 26: "Scattered showers in the cotton growing areas during the first part of the week. Hail and strong winds accompanied the storms and caused severe damage in Cumberland, Harnett, Sampson, and Wilson Counties. The rains have caused many fields to become very grassy. The latter part of the week has been clear and cool. All fields have a great many squares and lots of fields have just begun to fruit since the rains."

Boll weevils were found in all of the 139 fields examined in 21 counties. The average square infestation was 33% punctured squares as compared to 29% last week. In 36 fields the infestation ranged from 10 to 25% punctured squares; in 57 fields it ranged from 25 to 50% punctured squares; and in 29 fields more than 50% of the squares were punctured. The heaviest infestations were reported in Union, Robeson, Scotland, Harnett, Sampson, Greene, Hoke, Edgecombe, Wayne, Johnson, and Northampton Counties. The boll weevil situation now appears to be similar to what it was a year ago.

SOUTH CAROLINA: Weather conditions have been very favorable for weevil development over the State the last three weeks and large numbers of weevils are now appearing in practically all fields. The average square infestation in 127 fields in 18 lower Coastal Plains counties was 73%. Florence and Darlington Counties in the Pee Dee section have much lower infestations than the other Coastal Plains counties, averaging 49% and 44% punctured squares, respectively. Excluding these counties, the average infestation for the 16 other Coastal Plains counties was 76%, with no county averaging less than 50%, and with only 3 fields of the 96 examined having less than 50% infestation. Seven counties averaged above 80%; 4 averaged between 70 and 80%; 5 averaged between 60 and 70%; and only 2 counties (Florence and Darlington) averaged less than 50% punctured squares.

C. R. Jordan, Jr., Assistant Extension Entomologist, reported on July 28: "Most of the crop in the Coastal Plains counties is now well past the peak of fruiting, and in general there appears to be a small crop of bolls set. Cotton in the Piedmont counties is just reaching the peak of fruiting, and with a heavy brood of weevils now emerging, combined with a migratory movement of weevils from the Coastal Plains counties within the next two weeks, the prospects for extreme boll weevil injury appear certain."

Mr. Jordan received reports from county agents in 32 counties in all parts of the State, who had examined 146 fields, finding an average of 35% of the squares punctured as compared to last week's average of 30%.

GEORGIA: Boll weevils were found in all of the 63 fields examined in 33 counties, but apparently the weevil situation is not more serious than it has been in previous weeks. In only 18 of the 63 fields examined were more than 30% of the squares punctured and in only 9 of those fields were more than 50% of the squares punctured. In 16 fields in Atkinson, Berrien, Marion, Schley, Tift, Douglas,

Fayette, Heard, Meriwether, and Talbot Counties less than 10% of the squares were punctured. It is probable that many of those fields had been dusted with calcium arsenate or other insecticides. Fields with more than 50% punctured squares were reported in Cook, Decatur, Dooly, Lee, Lowndes, Macon, Seminole, and Tift Counties in the southern part of the State, and in Clayton County in the northern area.

P. M. Gilmer, Tifton, states that there has been a lack of rainfall in some areas, but in most counties there has been sufficient rainfall. In the southern and middle counties cotton is opening rapidly. On the whole, the condition of the cotton crop is excellent. In the Coastal Plains counties the boll weevil population is high in many fields and few cotton squares are available. Boll damage is commencing in unpoisoned fields and very heavy weevil populations are building up in those fields. Serious boll damage may be expected during the next two weeks in the fields where poison is not used to control the weevils. There are many fields in the Piedmont area where weevils will cause serious damage to squares and bolls, if poison is not applied promptly.

ALABAMA: W. A. Ruffin, Extension Entomologist, Auburn, wired on July 28, as follows: "Checked 49 fields of cotton in 11 counties northeastern part of State. Infestation in untreated fields ranged from 2% to 74%, averaged 20%. Infestation in dusted fields averaged 16%. Weevil damage in most of these counties is usually light. Indications are that control measures will be needed in this area this year."

The above statements are of special interest now in view of the statement made by Mr. Ruffin on July 15 regarding conditions in Alabama: "We have many more weevils and the damage has been even greater than it was in 1946"; and on July 21 he wrote: "More farmers in Alabama have done a good job of weevil control up to the present than ever before. However, in my opinion, a lot of cotton will be lost due to punctured bolls during August, because we do not have any material with which to control the boll weevil for the balance of the season."

MISSISSIPPI: Clay Lyle, Entomologist of the Plant Board and Experiment Station, stated on July 28 that extreme hot, dry weather in some sections of Mississippi is reducing boll weevil damage but the general situation remains serious. In the examination of 308 farms in 43 counties boll weevils were found on 212 with an average infestation of 23% punctured squares as compared with 24% last week and 33% on this date last year. The average on all farms examined was 16% as compared to 17% last week and 24% at this time last year.

Another indication that the weevil situation may not be quite as serious as it was last year is given in the report of E. W. Dannam and S. L. Calhoun, based on the examination of 139 fields in 15 Delta counties. During the week they reported boll weevils in only 40% of the fields examined as compared to 63% of the fields examined a year ago. Last year weevils were found in 83 of 132 fields examined with an average infestation of 32% punctured squares. This year weevils were found in only 56 of 139 fields examined, with an average infestation of 23% punctured squares. No boll weevils were found in the examination of 23 fields in the northern part of the Delta in Coahoma, Tunica, and DeSoto Counties. In the southern Delta counties the boll weevil situation is serious. All 6 fields examined in Warren County had weevils, and in 5 fields the infestations ranged from 51 to 82% punctured squares. In Issaquena County weevils were found in all of the 6 fields examined, but the highest infestation was 56% punctured squares; 9 of the 10 fields examined in Yazoo County had boll weevils, with the highest infestation 62%

punctured squares; 7 of the 8 fields examined in Holmes County had weevils, with 3 of the fields having more than 50% punctured squares; in Humphreys County weevils were found in only 1 of the 8 fields examined, but in that field 61% of the squares were punctured. Weevils were found in only 17 of the 31 fields examined in Washington County, where the highest infestation reported was 53% punctured squares.

In Sharkey County weevils were found in only 3 of the 11 fields examined, but in 1 of those fields 75% of the squares were punctured. In Leflore County weevils were found in only 2 of the 8 fields examined, but in 1 of those fields 44% of the squares were punctured.

B. J. Young, Delta and Pine Land Company, Scott, reported on July 24 that weevils were found in 329 of the 332 fields examined in the southern part of Bolivar County, but in only 3 fields were more than 50% of the squares punctured, and in only 1 of these fields did the infestation exceed 60% punctured squares. The boll weevil situation appears to be less serious in Bolivar County now than a year ago. Last year at this time weevils were found in all of the D.&P.L. fields. This year there are only 13 fields with more than 25% punctured squares, while a year ago at this time 43 fields had more than 25% squares punctured.

As an indication of how hot, dry weather may reduce the boll weevil infestation Dr. Lyle mentions one farm in Tate County in the northern part of the State where no rain had fallen since June 26 and the weevil infestation had decreased from 50% on June 22 to 8% punctured squares during the week ending July 26. Dr. Lyle adds: "Where showers are occurring and an infestation is already present severe damage is almost certain unless control measures are used. Farmers are urged to be especially watchful for injury during the next two or three weeks as great damage can be done by migrating weevils at this time. Alternating a calcium arsenate dust containing 2% nicotine with straight calcium arsenate at 4-day intervals is advised."

LOUISIANA: The weather has been more favorable for weevils than during the previous week. The average boll weevil infestation in 262 fields in 19 parishes was 21%, the same as during the previous week. No punctured squares were found in a few fields examined in Acadia and Natchitoches Parishes. In 33% of the fields where weevils were found, less than 10% of the squares were punctured. These low infestations occurred especially in Avoyelles, Oachita, Richland, Lafayette, Bossier, and Caddo Parishes. In 32% of the fields examined the infestations ranged from 11 to 25% punctured squares; in 28% of the fields the infestations ranged from 25 to 50%; and in only 6% of the fields were over 50% of the squares punctured. Heavily infested fields were reported in St. Landry, Red River, Rapides, East Carroll, Tensas, Madison, Bossier, and Caddo Parishes.

ARKANSAS: In the examination of 48 fields in 6 southeastern counties the average infestation was 38% punctured squares. Weevils were found in all of the fields examined. In only 3 fields in Drew County and 1 field in Ashley County were less than 10% of the squares punctured. Thirty-three percent of the fields had infestations ranging between 10 and 25%; 31% of the fields had between 25 and 50% punctured squares; and 28% of the fields had over 50% punctured squares. The heaviest infestations were reported in Desha, Ashley, Chicot, and Drew Counties. Much poisoning has been done in the southeastern Arkansas counties for boll weevil control during the past week.

Charles Lincoln, Extension Entomologist, reports that in Howard, Columbia, Hempstead, Nevada, and Clark Counties weevils are being slowed down by dry weather.

except in rank cotton. Infestations vary from 0 to 50%. In larger fields spotted infestations call for spot dusting.

On July 21 Dr. Lincoln wrote: "Boll weevil populations are rising as first generation weevils emerge. Rain in some areas will increase the severity of the problem. Where the weevil population is rising as indicated by an increase in punctured squares, and where there has been a good rain, dusting is needed for weevil control."

TEXAS: Hot, dry weather continued throughout the State, with a few scattered showers. Temperatures were not as high as during the previous week, but were sufficiently high to aid in controlling insects. Cotton throughout central and northern areas is in full bloom at this time and appears to have very little insect damage. There was little change in weevil infestation. The average infestation in 667 fields in 43 counties was 14% punctured squares as compared to 12% the previous week. In 95 fields no punctured squares were found; in 343 fields less than 10% of the squares were punctured; in 161 fields the infestations were from 10 to 25%; in 55 fields from 25 to 50%; and in 13 fields in Grayson, Fannin, McLennan, Robertson, Burleson, Wharton, and Jackson Counties, more than 50% of the squares were punctured.

A. J. Chapman reported on July 19 that in the lower Rio Grande Valley the weather has been hot and dry for several weeks and harvesting of the cotton crop is now well under way. In some fields picking has been completed and stalk destruction is now in progress. The yield per acre will be lower than last year as a result of the unusually dry season. In this area all cotton stalks must be destroyed by August 31. This early destruction of all growing cotton plants is the most effective control of both the boll weevil and the pink bollworm as there will be few of these insects to survive the winter to infest the 1948 crop.

OKLAHOMA: C. F. Stiles, Extension Entomologist, reported July 26: "The boll weevil infestation has declined somewhat during the past two weeks but still remains serious in many fields. In all counties inspected, there were many fields where severe damage is being caused by boll weevils. During the week temperatures were below normal and rains fell over much of the eastern and central parts of the state where the weevil infestation is the highest. This weather has greatly increased the possibility for severe boll weevil damage."

The examination of 126 fields in 18 counties indicates that the weevil infestations are very spotted and generally high. In 4 counties fields were examined where no boll weevils were found, but the highest infestations reported in those counties were: Stephens County, 84%; Seminole County, 61%; Johnston County, 31%; and Haskell County, 22% punctured squares. The highest average infestation was in Comanche County, where the average infestation in 5 fields was 42%. The next highest average was in Pottawatomie County, where the examination of 4 fields disclosed infestations ranging from 20 to 82%, or an average of 39%. The third highest average was in Stephens County, where the examination of 7 fields disclosed infestations ranging from 0 to 84%, with an average of 37% in all fields. The fourth highest average was in McCurtain County, where the range varied from 14 to 65% punctured squares, and the average in the 13 fields examined was 31% punctured squares.

BOLLWORM

SOUTH CAROLINA: Scattered reports of bollworm injury have been received, but it appears that the injury thus far has been local, with no widespread injury being reported.

GEORGIA: Bollworms continue to cause damage, especially in the Piedmont area, but they were also reported in Tift and nearby counties.

ALABAMA: After examining 40 cotton fields in 8 southeastern counties, W. A. Ruffin, Extension Entomologist, reported on July 21: "The bollworm is causing damage about equal to the boll weevil in this area. A dust that contains 5% DDT applied at the rate of 15 pounds per acre has given good control."

MISSISSIPPI: Bollworms were noted in 11 of the 139 fields examined in 15 Delta counties. B. J. Young, Scott, Bolivar County, reported July 24: "We are finding more bollworms and will have to poison."

ARKANSAS: Charles Lincoln, Extension Entomologist, reported July 29: "Third generation bollworms are hatching. Infestations ranging up to 11% eaten squares are reported in southeastern Arkansas by Mr. Clary. Where cotton is unprotected by silking corn, it should be watched carefully for signs of an outbreak."

TEXAS: Although no extremely serious outbreaks of the bollworm have been reported, scattering infestations occur in all sections of the State, with the possible exception of the northwestern section. In the examination of 738 cotton fields, bollworms were noted in 342 fields in 32 counties. They were noted in 14 of the 15 fields examined in Dallas County, in 18 of the 24 fields examined in Ellis County, in 79 of the 185 fields examined in Lamar County, and in 76 of the 143 fields examined in Hill County.

O. T. Robertson reported July 18: "The bollworm population is increasing and most of the cotton in the Presidio Valley was dusted with 10% DDT and 50% sulfur this week."

There was a slight increase in bollworm infestations in the El Paso Valley. The infestation is spotted and causing economic damage in only a few fields.

OKLAHOMA: Bollworm infestations were found in 16 of the 126 fields examined.

ARIZONA: Bollworms were noted in damaging numbers in the Marana area of the Santa Cruz Valley. They are also appearing in damaging numbers in the Sahuarita and Continental areas. Plans are being made to dust these areas with a 5% DDT-sulfur mixture for their control.

NEW MEXICO: A few bollworm infestations were reported in the Pecos Valley.

COTTON APHID

SOUTH CAROLINA: C. R. Jordan, Jr., Assistant Extension Entomologist, reported on July 28: "Some cases of severe plant lice damage have been noted where several applications of straight calcium arsenate dust have been used."

GEORGIA: Aphid populations are high over most of the State and are beginning to cause defoliation in the Coastal Plains counties, especially in the more mature cotton.

ALABAMA: After examining 40 cotton fields in 8 southeastern counties, W. A. Ruffin, Extension Entomologist, reported on July 21: "Lice have actually caused serious damage in some fields where the cotton has been dusted three or more times. We have been able to do little about the control of lice on cotton because we do not have any nicotine."

TENNESSEE: S. Marcovitch, Entomologist, Agricultural Experiment Station, Knoxville, wrote on July 28: "At the Cotton Farm where we dusted with DDT for the control of the tarnished plant bug earlier in the season we are now having to dust with nicotine for the control of plant lice."

LOUISIANA: Aphids are increasing where calcium arsenate has been used against weevils.

ARKANSAS: Aphids are increasing where dusting is being done.

TEXAS: In the examination of 738 fields in 43 counties light infestations of the cotton aphid were reported in 273 fields, medium infestations in 76 fields, and heavy infestations in 10 fields in Calhoun, Fort Bend, Bastrop, Hill, and Lamar Counties.

OKLAHOMA: Serious aphid infestations were reported in Marshall and McCurtain Counties.

COTTON LEAFWORM

TEXAS: W. N. Kettler found the cotton leafworm near Tivoli, Refugio County, on July 22. This is the third county in Texas from which the cotton leafworm has been reported this season. It was found in Calhoun and Nueces Counties during June.

O. T. Robertson also found the cotton leafworm in a field in Mexico just across the Rio Grande River from Cameron County, Texas, on July 22.

COTTON FLEAHOPPER, TARNISHED PLANT BUG, RAPID PLANT BUG AND OTHER MIRIDAE THAT ARE PESTS OF COTTON

LOUISIANA: On July 19 the Experiment Station reported that cotton fleahopper damage had been general and severe in East Carroll Parish and that very little fleahopper damage had been noted in Franklin and West Carroll Parishes.

MISSISSIPPI: In the examination of 139 fields the rapid plant bug was noted in 20 fields, the tarnished plant bug in 16 fields, and the cotton fleahopper in 3 fields.

TENNESSEE: S. Marcovitch, Entomologist, Agricultural Experiment Station, Knoxville, wrote on July 28: "At the Cotton Farm where we dusted with DDT for the control of the tarnished plant bug earlier in the season we are now having to dust with nicotine for the control of plant lice."

GEORGIA: The cotton fleahopper is present in many Piedmont fields, but serious damage has not been reported.

OKLAHOMA: The fleahopper infestation remains light in all fields examined.

TEXAS: In the examination of 738 fields in 43 counties, light infestations not exceeding 10 per 100 terminals were found in 403 fields; infestations ranging from 11 to 25 fleahoppers per 100 terminals were recorded in 202 fields; infestations ranging between 26 and 50 fleahoppers per 100 terminals were noted in 37 fields; and in 2 fields in Cottle and Jones Counties more than 50 fleahoppers were found per 100 terminals.

RED SPIDER

ALABAMA: After examining 40 cotton fields in 8 southeastern counties, W. A. Ruffin, Extension Entomologist, reported on July 21 as follows: "The red spider was found in a number of fields but damage has been light up to the present."

MISSOURI: R. Q. Brown, County Extension Agent, Charleston, Mississippi County, wrote on July 26 that he had received reports of some red spider damage on two farms. One grower has already dusted his cotton with sulfur to control the red spider mite.

MISCELLANEOUS INSECTS

Velvetbean Caterpillar (Anticarsia gemmatilis (Hbn.)): Although the velvetbean caterpillar does not attack cotton, it is mentioned here because C. M. Packard, in charge of the Division of Cereal and Forage Insect Investigations of this Bureau, is anxious that entomologists and others in the Southern States be on the lookout for this pest and report its appearance promptly. Mr. Packard states that it has been reported by Florida entomologists as occurring in Dade County, Florida, on July 15. L. E. Prince found on July 22 that the velvetbean caterpillar has made its appearance in rather large numbers in peanut fields in the vicinity of Marianna, Jackson County, Florida.

C. E. Smith, Entomologist of the Louisiana Experiment Station, reports that a survey made on July 17 showed that adults and larvae of the velvetbean caterpillar were in Assumption, Lafourche, and St. Mary Parishes, but in fewer numbers than in 1946.

American Grasshopper (Schistocerca americana (Drury)): This large grasshopper was reported by P. M. Gilmer on July 22 as causing serious damage near Montezuma, Macon County, Georgia. It had nearly ruined 500 acres of mixed crops and grass land, including Johnson grass, a small cotton field, a small peanut field, and about 50 acres of corn (on 20 acres of which the stalks and ears were stripped.) Of the 500 acres that had been affected by the grasshoppers, about half were in row crops. The main swarm of grasshoppers was in corn and was about 1/2 mile long and 300 yards wide. He estimated that there was an average of between 10 and 15 grasshoppers per square foot of ground and fully 50 per corn plant. Breeding ground appeared to be largely in 200 acres of vetch unharvested last year and turned under about September 1. This apparently left conditions favorable for oviposition and, since the vetch remained this year as a volunteer crop, it was excellent feeding ground for the newly-hatched grasshoppers. The vetch has now matured and dried and the grasshoppers commenced migrating about a week ago.

The Corn Silk Beetle (Luperodes brunneus (Cr.)): Although the common name of this insect indicates that it is a pest of corn, it is also a serious pest of cotton. This beetle has been at times reported as a pest of cotton in most, if not all, of the Southeastern States. The first report of its appearance during 1947 came from the Department of Entomology and Zoology of Clemson Agricultural College, Clemson, South Carolina, on July 14. The beetles were identified by H. S. Barber as the corn silk beetle, Luperodes brunneus (Cr.). Later Professor J. A. Berly, Clemson, South Carolina, reported that these beetles came from Allendale and Bamberg Counties, South Carolina, and were causing serious damage in a number of cotton fields early in July. The second lot of these beetles was mailed on July 17 from

Tifton, Georgia, by P. M. Gilmer, who had received them from T. R. Powell, County Agent of Screven County, Georgia, where they were reported as attacking the foliage of cotton.

Grape Colaspis (Colaspis flavida (Say)): Charles Lincoln, Extension Entomologist of Arkansas, wrote on July 21: "The brown or grape colaspis is a small, roundish, brown beetle. It is a general feeder. At present it is attracting attention by eating bracts from around squares and young bolls. This is new to us too, but we don't expect it to do any important injury."

S. Marcovitch, Entomologist, Agricultural Experiment Station, Knoxville, Tenn. wrote on July 28 that he had received a report that the grape colaspis is injuring cotton in many fields in the vicinity of Jackson, Madison County.

Dr. Lincoln reported on July 16: "Cotton square borers (Strymon melinus (Hbn. and cotton boll cutworms (Prodenia ornithogalli Guen.) are common. They are of little or no importance but may be confused with bollworm."

On July 21 he wrote: "Garden webworm is still being reported. This insect has been occurring in local outbreaks since early June. It is still being mistaken for cotton leafworm. Calcium arsenate dust or lead arsenate spray is providing effective control on cotton and corn. On soybeans cryolite is preferred to avoid arsenical burning. If alfalfa is nearly ready to cut, best control is to cut it. If it will not be ready to cut for two weeks, dust with cryolite."

Southern Green Stink Bug (Nezara viridula (L.)): The Louisiana Experiment Station reports the southern green stink bug causing damage to cotton in St. Martin Parish. Whiteflies: These insects were noted in 2 cotton fields in the Delta section of Mississippi. Thrips: Thrips collected on cotton on the Layne Farms, McLennan Co., Texas, on May 26, by C. R. Parencia, Jr., were identified by J. C. Crawford as representing three species of the family Thripidae: Frankliniella exigua Hd., F. inornata Mlt., and F. fusca (Hinds). Cicada: Some cicada injury to cotton has been reported in the Salt River Valley south of Chandler, Arizona.

INSECTS ON IRRIGATED COTTON OF THE SOUTHWEST

ARIZONA: Stink bugs, principally Euschistus impectiventris, increased generally on cotton in the Salt River Valley. The increases were found surrounding the Buckeye area, where as many as 18 stink bugs were found per 100 sweeps. Cotton fields near alfalfa grown for seed showed the highest insect populations. Lygus populations also continued high in many fields. Spraying and dusting is being continued for the control of these insects. Dusting for hemipterous insect control is general in Pinal County. Lygus sp. is still the predominating mirid and Euschistus impectiventris the predominating stink bug. There was no increase in populations with the exception of a slight increase in stink bugs in a few fields. The injurious hemipterous insect populations are very low in the Santa Cruz Valley at this time. The heavy cotton fleahopper infestations found in the Valley before dusting was started have practically disappeared. Only an occasional Lygus or cotton fleahopper was collected, except in the Midvale area where an average of 9 Lygus and 3 fleahoppers were collected per 100 sweeps. L. S. Owen, County Agent, Graham County, reported that cotton insect populations are still heavier in the Solomonville area of the Safford Valley. He stated: "The counts vary considerably from field to field. Many, however, show counts where control would pay off. Some dusting is in progress."

NEW MEXICO: The injurious hemipterous insect populations remain low in Dona Ana County, with Lygus predominating. A few stink bugs, Thyanta custator, are beginning to appear in a number of fields. Dusting is still in progress. In 23 fields swept the populations ranged from 0 to 8 injurious species, with an average of 3 per 100 sweeps. In Eddy County, Lygus and cotton fleahopper infestations increased. The average population in 33 fields was 13 injurious species per 100 sweeps. Dusting is general in the Pecos Valley of New Mexico and supplies of insecticides are running short.

TEXAS: There was a high increase in hemipterous insect populations on cotton, particularly in fields near alfalfa grown for seed in the El Paso Valley. In 10 study fields that are swept at weekly intervals the injurious species increased from 9 to 47 per 100 net strokes. Sweepings obtained in 42 fields in El Paso and Hudspeth Counties showed an average population of 23 injurious species per 100 sweeps. The injurious insects are principally Lygus, but the conchuela stink bug is appearing in numbers in a few fields. Serious infestations have also been reported in the Pecos Valley. Plans are being made to dust large acreages in the El Paso Valley with 5% and 10% DDT-sulfur dust for the control of these insects.

---Prepared A U G U S T 1, 1947.---